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ABSTRACT

This secondary curriculum guide is comprised of three jobs (units of instruction) designed to introduce students to vocational agriculture. An introductory section lists the jobs included in the guide, intended use, unit objectives, and references. Jobs included are (1) Recognizing the Importance of Agriculture, (2) Understanding the Vocational Agriculture Program, and (3) Exploring Careers in Agriculture. Each job unit is comprised of the following parts: objectives, guide questions, references, interest approach, key facts, student learning activities, and transparency masters. (LRA)

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INTRODUCTION TO VOCATIONAL AGRICULTURE/AGRIBUSINESS

Unit A-1

by

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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CE 026 319

INTRODUCTION TO VOCATIONAL AGRICULTURE/AGRIBUSINESS

Jobs Included

1. Recognizing the Importance of Agriculture.
2. Understanding the Vocational Agriculture Program.
3. Exploring Careers in Agriculture.

Intended Use

Every teacher of vocational agriculture should spend some instructional time introducing and orienting new students to the program. This unit is intended to provide five hours of instruction for that purpose. It is designed so each local teacher can insert into the plan the information pertaining to the local school and vocational agriculture program.

Unit Objectives

1. To develop an understanding of the importance of agriculture to the community, state, and nation.
2. To develop an understanding of the purposes and functioning of the vocational agriculture program.
3. To explore the career choices in agriculture for which the Vocational Agriculture Program prepares students.

References:

Cobia, David W. Management and Marketing in Agribusiness. Department of Agricultural Economics, North Dakota State University, Fargo, North Dakota, August, 1976.

Crops, Nursery and Greenhouse Products. Vol. 2, part 6 of the 1974 Census of Agriculture. U.S. Department of Commerce, Bureau of the Census, February, 1978.

Krebs, Alfred H. Agriculture In Our Lives. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1978.

Hoover, Norman K. Handbook of Agricultural Occupations. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1977.

Introduction To Agriculture. California Vocational Agriculture Curriculum Guidelines, Vocational Education Productions, California Polytechnic State University, San Luis Obispo, California, 1977.

Torkelson, David R. North Dakota Industrial Location Facts. Business and Industrial Development Department, Bismarck, North Dakota, February, 1977.

Vocational Agriculture II. Oklahoma State Board of Vocational and Technical Education, Stillwater, Oklahoma, 1971.

Your Career In Agriculture Agribusiness. The Future Farmers of America, Alexandria, Virginia.

Job I: Recognizing the Importance of Agriculture.

Objectives:

The objectives of this job shall be met at a level predetermined by the instructor. The manner in which they are evaluated shall also be determined by the instructor.

Upon completion of this job, the students shall be able:

1. to define the term agriculture.
2. to identify the science areas included in agriculture.
3. to understand the importance of agriculture.
4. to comprehend the role that agriculture plays in local, state, national, and world affairs.

Guide Questions:

1. How would you define agriculture?
2. What science areas are included in agriculture?
3. What is the importance of agriculture to the population of the world?
4. Why is agriculture important to the United States?
5. Why is agriculture important to North Dakota?
6. Why is agriculture important to our community?

References:

Same as those listed for this unit.

Interest Approach: Discuss the meaning of the following statement:

"A man who goes without food for 24 hours will quarrel, one who is denied food for 48 hours will steal and one who is without food for 72 hours will fight. The only difference between peace and anarchy is a matter of only a few days without food." Point out the importance of world food production to world peace.

Key Facts:

I. Definition of Agriculture.

A. Production of plants and animals useful to man; the preparation of these products for man's use; and their distribution through marketing.

B. One of the oldest arts and one of the newest sciences.

II. Agriculture includes the following areas: (Transparency 1)

A. Agronomy - field crop production.

B. Animal Science - livestock production.

C. Horticulture - landscaping; ornamental plant production; fruit, vegetable and nut production.

D. Forestry - lumber production and Christmas tree production.

E. Soils - management of soils.

F. Natural Resources - managing natural resources.

G. Agricultural Mechanics - tools, machinery and equipment.

H. Agricultural Economics - managing land, labor and capital.

III. Importance of Agriculture. (Transparency 2)

A. Worldwide.

1. With world population growing and the land available for production decreasing, more food and fiber must be produced per acre of land.

2. One of the major underlying conflicts in many wars has been the control or possession of land.

IV. Agriculture's Importance to the United States.

A. The United States is one of the most efficient countries in the world in agricultural production.

B. Agricultural products are the United States' most valuable, most marketable, most renewable resource.

C. The United States exports more agricultural goods than it imports.

1. Exports. (Transparency 3)

a. Oil seeds and products.
b. Wheat and flour.
c. Feed grain.
d. Animal products.
e. Tobacco.
f. Fruit and vegetables.
g. Cotton.
h. Rice.

2. Imports. (Transparency 4)

a. Coffee.
b. Meat and meat products.
c. Fruit and nuts.

3. Major importers of U.S. goods.

   a. Japan.
   b. West Germany.
   c. Canada.
   d. United Kingdom.
   e. Netherlands.
   f. India.
   g. Italy.
   h. Spain.
   i. Belgium and Luxemburg.
   j. Korea.

D. Agriculture is our nation's biggest industry.

1. Largest employer. (Transparency 5)

   a. 4.4 million employed in farming.
   b. Employs over a million in processing meat and poultry, dairy, baking, canned and frozen goods, and cotton mills with an annual salary of over $9 billion.
   c. Employs 2 to 3 million in supply.
   d. Employs 6.2 million in marketing.
   e. Pays 46.7 billion in wages to workers in assembling, manufacturing, wholesale, retail and eating places.

2. Operating expenses of $73 billion annually.

3. Consumers spend $154 billion for farm goods annually.

V. Importance of Agriculture to North Dakota.

A. 97% of North Dakota land is classified as agricultural.

B. 37% of the Gross State Product comes directly from agriculture. (Transparency 6)

C. 3/4 of all money created by North Dakota enterprise is from farming.

D. North Dakota exports 65,000 boxcars of processed and unprocessed commodities annually.

E. In 1915 North Dakota farmers planted 9.3 million acres of wheat and harvested 159 million bushels; in 1969, 6.7 million acres yielded 200 million bushels. (Transparency 7)

F. North Dakota ranks first in production of several crops. (Transparency 8)

1. Durum wheat - 86% grown in the U.S. produced in North Dakota.
2. Mustard seed - 64% grown in the U.S. produced in North Dakota.
3. Sunflowers - 61% grown in the U.S. produced in North Dakota.
4. Proso millet - 56% grown in the U.S. produced in North Dakota.
5. Flax seed - 50% grown in the U.S. produced in North Dakota.
6. Barley - 20% grown in the U.S. produced in North Dakota.

G. North Dakota ranks high in many other crops. (Transparency 9)

1. Wheat - 2nd in production.
2. Rye - 2nd in production.
3. Buckwheat - 2nd in production.
4. Potatoes - 4th in production.
5. Oats - 4th in production.
6. Safflower - 4th in production.
7. Sugar beets - 5th in production.
8. Dry field beans - 6th in production.
9. Alfalfa - 8th in production.
10. Hay and grass silage - 8th in production.

(Note - Data taken from 1974 census information.)

VI. Importance of Agriculture to our community.

A. Principle crops grown.

1. Spring wheat - _____ acres in county.
2. Sunflowers - _____ acres in county.
3. Durum - _____ acres in county.
4. Barley - _____ acres in county.
5.
6.
7.
8.

B. Principle livestock raised.

1. Beef - _____ head in county.
2. Sheep - _____ head in county.
3. Swine - _____ head in county.
4. Dairy - _____ head in county.
5.
6.
7.
8.

C. Agricultural jobs in the community.

1. In production.

a.
b.
c.

2. In sales and service.

a.
b.
c.

3. In agricultural mechanics.

   a.
   b.
   c.

4. In processing.

   a.
   b.
   c.

5. In horticulture.

   a.
   b.
   c.

6. In resources.

   a.
   b.
   c.

7. In forestry.

   a.
   b.
   c.

8. In other agriculture.

   a. Vocational agriculture teacher.
   b.
   c.

Student Learning Activities:

1. Have students brainstorm and make a list of all the things they see in the classroom that originated from an agricultural product. Discuss their results.

2. Have students work in small groups and make a list of all the agricultural products produced in their community. After their lists are completed, have them check those products having major impact on the economy of the area.

AGRONOMY

ANIMAL SCIENCE

HORTICULTURE

FORESTRY

SOILS

NATURAL RESOURCES

AG MECHANICS

AG ECONOMICS

FEEDING THE WORLD POPULATION

UNITED STATES EXPORTS

1. Oil seeds and products
2. Wheat and Flour
3. Feed grain
4. Animal products

UNITED STATES IMPORTS

1. Coffee

2. Meat and meat products

3. Fruit and Vegtables

U. S. AGRICULTURE

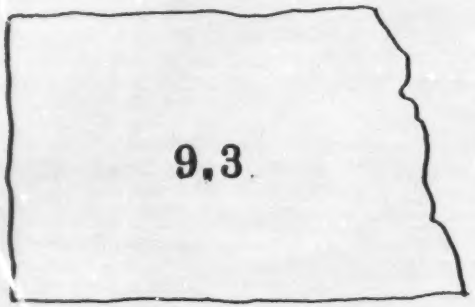
- Employs 4.4 million in farming
- Employs over a million in processing meat and poultry, dairy, baking, canned and frozen goods, and cotton mills with an annual salary of over $9 billion
- Employs 2 to 3 million in supply
- Employs 6.2 million in marketing
- Pays $46.7 billion in wages to workers in assembling, manufacturing, wholesale, retail and eating places

GROSS STATE PRODUCT

	Million current dollars		
	1971	1973	1975
Coal Mining	8.4	11.6	15.1
Petroleom & Gas	49.7	65.0	83.0
Other Mining	4.0	4.4	9.4
Manufacturing	156.8	264.1	294.2
Construction	150.5	169.9	213.4
Wholesale Trade	195.7	289.5	332.4
Retail Trade	303.2	351.6	442.4
Finance, insurance and Real Estate	262.9	302.5	373.2
Transportation	95.9	123.4	129.1
Communications, Public Utilities	140.0	160.4	198.4
Business Services	59.7	76.6	97.0
Professional Services	167.0	206.0	238.1
Other Industries	6.4	7.9	9.1
Agriculture	560.3	1,693.9	1,763.2
Government	464.7	551.1	623.0
Total	2625.2	4,280.8	4821.9

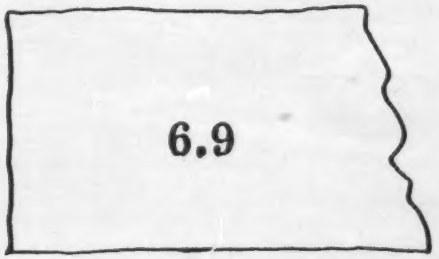
NORTH DAKOTA WHEAT PRODUCTION

1915



MILLION ACRES

1969



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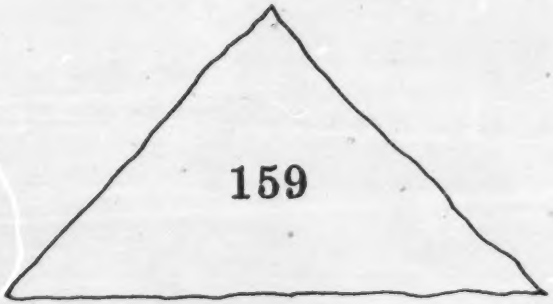
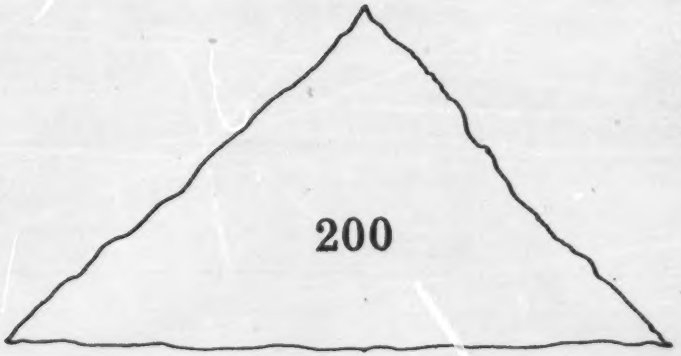


MILLION BUSHELS



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NORTH DAKOTA RANKS FIRST IN THE PRODUCTION OF:

DURUM WHEAT

MUSTARD SEED

SUNFLOWERS

PROSO MILLET

FLAX SEED

BARLEY

NORTH DAKOTA RANKS HIGH IN MANY CROPS:

Wheat – 2nd

Rye – 2nd

Buckwheat -- 2nd

Potatoes – 4th

Oats – 4th

Safflower – 4th

Sugar Beets – 5th

Dry Field Beans – 6th

Alfalfa – 8th

Hay and Grass Silage – 8th

Job 2: Understanding the Vocational Agriculture Program.

Objectives:

The objectives of this job shall be met at a level predetermined by the instructor. The manner in which they are evaluated shall also be determined by the instructor.

Upon completion of this job the students shall be able:

1. to understand the purposes of vocational agriculture.
2. to understand why vocational agriculture is an important part of the educational system.
3. to identify the components of the vocational agriculture program.
4. to understand the requirements of students enrolled in vocational agriculture.
5. to know what units of instruction are offered in the local curriculum in vocational agriculture.

Guide Questions:

1. What are the purposes of the vocational agriculture program?
2. Why is studying vocational agriculture important?
3. What three components make up the high school vocational agriculture program?
4. Where is vocational agriculture taught besides high schools?
5. What will be required of you as a student enrolled in vocational agriculture?
6. What units will be covered in vocational agriculture?

References:

None used for this job.

Interest Approach: Select and name a neighboring school that does not offer vocational agriculture. Indicate to the students there must be students in that school who are interested in a career in agriculture, but they are unfortunate not to have a vocational agriculture program available to them. Go on to discuss how lucky your students are to have vocational agriculture available and how the program can prepare them for careers in agriculture.

Key Facts:

I. Purposes of Vocational Agriculture. (Transparency 1)

A. Explore various careers in agriculture.

B. Helps make career choices.

C. Prepare students in the field of agriculture.

1. Planning to farm.
2. Planning to work in a related business.
3. Planning to further their education.

D. Aid farmers, ranchers, and agribusiness persons to get started and improve their operations.

II. Reasons for Studying Vocational Agriculture. (Transparency 2)

A. Importance of national food supply.

B. Awareness of our nation's economy.

C. Daily use of farm products.

D. Understanding of agricultural related businesses.

E. Choice of an occupation.

F. Wise use of natural resources.

G. Development of job skills for agricultural occupations.

III. Components of Vocational Agriculture.

A. High school. (Transparency 3)

1. Instructional component consisting of

a. Classroom.
b. Shop.
c. Field trips.
d. Homework assignments.
e. Other activities.

2. Supervised Occupational Experience Program.

a. Moneymaking endeavor to help learn skills.
b. May be production, placement or both.
c. Also includes improvement projects which are non-money-makers.

3. FFA.

a. Primary aim is leadership development.
b. Provides opportunity for competition, travel, recognition, recreation, etc.

(Note: Both SOE and FFA will be discussed in greater detail later.)

B. Post Secondary - colleges and junior colleges.

1. May be either 2 or 4 year programs.

2. Much more technical and specialized.

3. Postsecondary offerings in North Dakota.

a. North Dakota State University - Fargo.
b. Dickinson State College - Dickinson.
c. Bismarck Junior College - Bismarck
d. North Dakota State School of Science - Wahpeton.
e. Lake Region Junior College - Devils Lake.
f. NDSU Bottineau Branch - Bottineau.
g. UND Williston Branch - Williston.

C. Adult.

1. Help people get established in business.

2. Help people already established.

a. Record keeping and management.
b. New technology.

3. Offered through both high schools and colleges.

IV. Requirements of Students Enrolled in Vocational Agriculture.

A. Attend class.

B. Conduct approved SOE project.

C. Become an FFA member.

D. Class and department policy.

E. Policy relating to discipline.

F. Grading system used.

G. Other.

V. Vocational Agriculture Curriculum.

A. Vo-Ag I.

1. Units to be taught.

2. Special activities to be carried out.

3. FFA events.

B. Vo-Ag II.

C. Advanced Vo-Ag or Vo-Ag III & IV.

Student Learning Activities:

1. Each student should review the local course of study for Vocational Agriculture/Agribusiness I. The course of study should be provided to each student by the instructor.

2. Have a senior student enrolled in vocational agriculture speak to the class to discuss what he/she has gained from the program.

3. Have each of the students in class briefly describe or write what he/she hopes to get out of the vocational agriculture program.

PURPOSES OF VOCATIONAL AGRICULTURE

- Explore careers

- Help make career choices

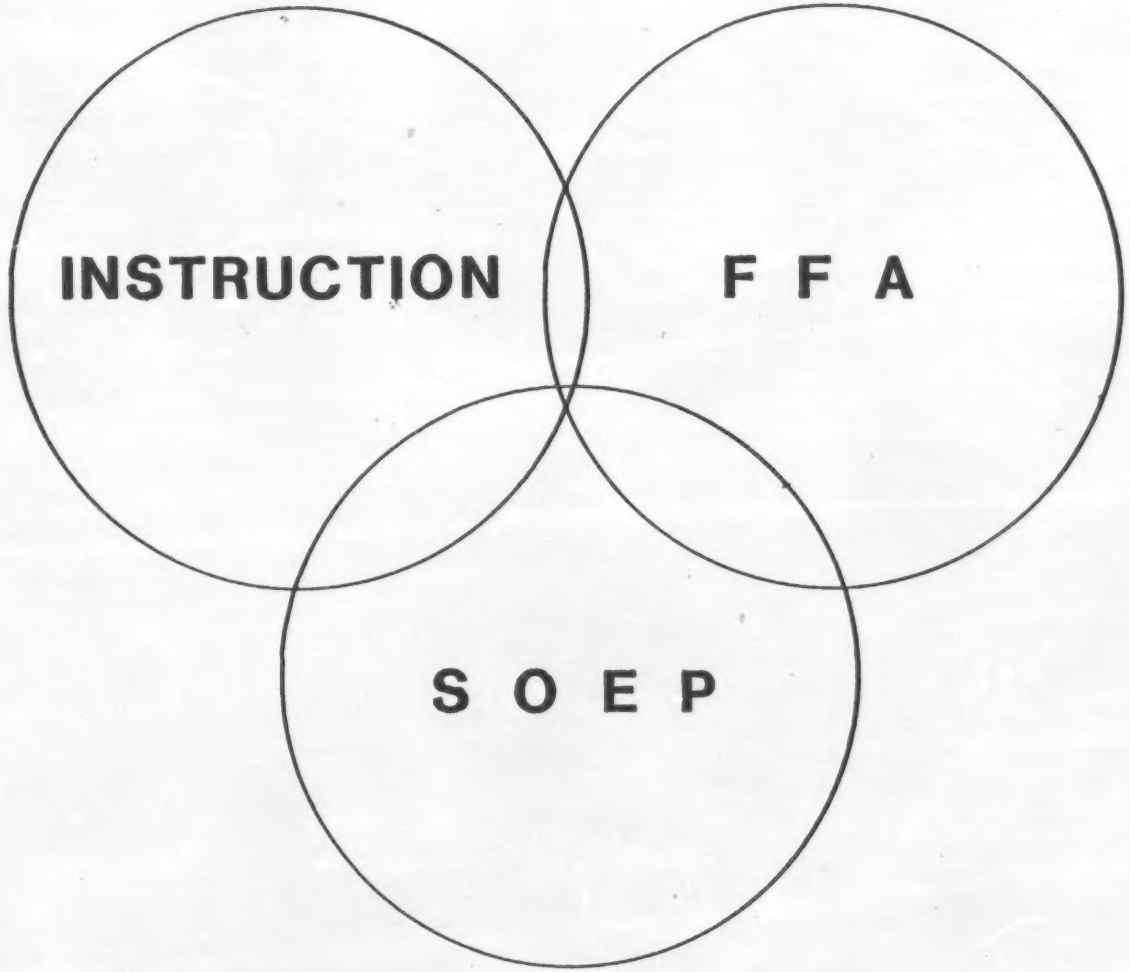
- Prepare students for careers in agriculture

- Aid farmers, ranchers, and agribusiness persons

REASON FOR STUDYING VOCATIONAL AGRICULTURE

1. Importance of our national food supply
2. Awareness of our nations economy
3. Daily use of farm products
4. Understanding of agricultural related business
5. Choice of an occupation
6. Wise use of natural resources
7. Developement of job skills

INTERRELATION OF VOCATIONAL AGRICULTURE



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Job 3: Exploring Careers in Agriculture.

Objectives:

The objectives of this job shall be met at a level predetermined by the instructor. The manner in which they are evaluated shall also be determined by the instructor.

Upon completion of this job, the students shall be able:

1. to understand the importance of making a career choice.
2. to list types of careers in agriculture.
3. to make a self-assessment of attitudes, interests and abilities.
4. to understand how to prepare for a career.

Guide Questions:

1. Why is it important to make a career choice?
2. What are some careers in agriculture?
3. How do you fit in relation to an agricultural career?
4. How do you prepare for a career in agriculture?

References:

Hoover, Norman K. Handbook of Agricultural Occupations. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1977.

Interest Approach: Have the students write a short paragraph explaining what their career choice is and how it has changed over the past eight years. In relationship to this, discuss how a career choice gets more realistic and solidified as the students get older.

Key Facts:

I. Importance of making a career choice.

A. One of the most important choices one ever makes.

B. Major factor in determining:

1. Job satisfaction.
2. Promotion opportunities.
3. Wages or salary.
4. People you associate with.
5. Where you live.
6. Amount of leisure time.
7. Likes and dislikes.

C. Great effect on:

1. Health.
2. Attitudes.
3. Interests.
4. Sense of values.
5. Happiness.

D. Career choice will change often in one's life.

II. Careers in Agriculture.

A. Agricultural Production.

1. Farming and Ranching.
2. Farm Manager.
3. Farm Laborer.
4. Custom Worker.

B. Agricultural Supplies.

1. Grain Elevator Employee.
2. Seed Salesman.
3. Agricultural Chemicals Fieldman.
4. Feed Dealer.
5. Fertilizer Plant Operator.
6. Feed Mill Operator.
7. Fertilizer Dealer.

C. Agricultural Mechanics.

1. Agricultural Machinery Dealer.
2. Machinery Service Center Employee.
3. Parts Man, Retail Farm Equipment.
4. Farm Equipment Operator.
5. Farm Machinery and Equipment Sales.
6. Soil Conservation Aide.

D. Agricultural Products.

1. Agricultural Products Inspector or Grader.
2. Butcher or Meat Processor.
3. Milk Processor.
4. D H. I. A. Tester.
5. Livestock Buyer.
6. Commodities Specialist.

E. Ornamental Horticulture.

1. Nurseryman.
2. Florist.
3. Landscape Aide.
4. Golf Course Employee.
5. Arborist.

6. Gardener.
7. Greenhouse Operator.

F. Agricultural Resources.

1. Conservation Service Employee.
2. Wildlife Conservation Officer.
3. Fish Hatcheryman.
4. Recreation Farm Manager.
5. Park Worker.
6. Game Farm Worker.
7. Government Regulator.

G. Forestry.

1. Forester.
2. Saw Mill Operator.
3. Lumber Man.
4. Forestry Aide.
5. Park Employee.
6. Christmas Tree Grower.

H. Professional.

1. Teacher of Agriculture.
2. Extension Agent.
3. Veterinarian.
4. Farm Insurance Adjuster.
5. Farm Loan Officer.
6. Agricultural Engineer.
7. Agronomist.

III. Assessing Personal Qualifications and Assets.

A. Must have had some interest in agriculture to be enrolled in Vocational Agriculture.

B. Personal qualities to consider:

1. Ability.

a. Capacity to perform.
b. May be different in different areas.
c. Must choose a career in which you can function.

2. Talents.

a. Things you do well.
b. Hobbies are often an indication of special talents.

3. Physical makeup.

a. Health.

b. Strength.
c. Stamina.

4. Previous experience.

a. Experience will help you develop your interests.
b. Knowledge and skills learned are helpful in future occupations.

5. Interests.

a. Should be lasting interests and not a whim or a fad.
b. Important in job satisfaction.

6. Educational aims.

a. Education can increase opportunities.
b. Certain careers require more education than others.

7. Attitudes and values.

a. Career must agree with attitudes and values.
b. Compare with people associated with the career.

8. Self concept.

a. How you see yourself.
b. Imagine yourself in the career.

9. Willingness to change.

a. Must be able to adapt to new and changing conditions.
b. Must be able to appreciate differing points of view.

10. How others see you.

a. Others judge your personality by what they see, not what you do.
b. Important to make good impressions.

IV. Preparing for a Career in Agriculture.

A. Education.

1. Nearly all employers require or desire a high school education.

2. Vocational Agriculture provides skill development at a beginning level in many careers.

3. Skilled labor often requires two or more years in a technical school.

4. Professional careers usually require four or more years of college.

B. Experience.

1. Few employers hire workers with no experience.

2. Generally must start at the bottom and work up.

3. Diversity of experience good for career selection and preparation.

C. Financial stability.

1. Starting a business usually requires a great deal of capital.

2. Loan agencies require financial stability before making loans.

Student Learning Activities:

1. Have the guidance counsellor give a short talk on career selection.

2. Have the students use their career selection and research it using the points discussed in the lesson. Complete the attached worksheet.

Worksheet #1

MY CAREER CHOICE

Career choice (title) _____

Duties of the job: _____

_____

_____

Education necessary:

1) High school classes that will be helpful -- _____

_____

_____

2) Additional education necessary -- _____

_____

_____

Employment opportunities (List kinds of agencies, businesses, or organizations whom you could work for) -- _____

_____

_____

Personal qualities needed for the job -- _____

_____

_____

_____

How do I fit into this job? _____

_____